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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,123	01/10/2002	Suk-beom Song	SAM-0292	8042
7590	10/24/2005		EXAMINER	
Steven M. Mills MILLS & ONELLO LLP Suite 605 Eleven Beacon Street Boston, MA 02108			TRAN, TRANG U	
			ART UNIT	PAPER NUMBER
			2614	
			DATE MAILED: 10/24/2005	

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/044,123	SONG, SUK-BEOM	
	<b>Examiner</b>	<b>Art Unit</b>	
	Trang U. Tran	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 1,10,12 and 20 is/are rejected.  
 7) Claim(s) 2-9,11 and 13-19 is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/13/2004</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it is exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 10, 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Han (US Patent No. 6,175,387 B1) in view of Suen et al. (US Patent No. 6,552,750 B1).

In considering claim 1, Han discloses all the claimed subject matter, note 1) the claimed a data synchronizing unit for synchronizing the first data output from the input buffer unit with an output clock signal in response to the input clock signals and the first data enabling signals and outputting synchronized data as second data and second data enabling signals in response to each of the first data enabling signals is met by the sync converter 40 which adjusts the synchronizing (sync) signal that the timing of the sync signal corresponds to the actual data interval of the received data according to the input format (Figs. 4 and 6, col. 3, line 15 to col. 4, line 58), 2) the claimed a first memory for multiplexing the second data according to time sharing, storing the second data in different regions, and outputting the stored data in response to a first memory enabling signal is met by the first buffer 60 which temporarily storing the video data from the series-parallel converter 50 until the memory 70 is available (Fig. 4, col. 3, lines 20-44 and col. 5, lines 13-25), 3) the claimed a second memory for writing and reading data output from the first memory in response to a frame buffer control signal is met by the memory 70 which stores and outputs the video data (Fig. 4, col. 3, lines 20-44 and col. 5, lines 13-25), 4) the claimed a third memory for storing data output from the second memory and outputting the stored data as a display signal in response to a second memory enabling signal is met by the second buffer 100 and the third buffer 110 which temporarily storing the video data read from the memory 70 (Fig. 4, col. 3, lines 20-44 and col. 5, lines 13-25), and 5) the claimed a memory control unit for generating the first memory enabling signal to control data flow between the first memory and the second memory, generating the frame buffer control signal to control frame rates of the first and

second input data and the display signal, and generating the second memory enabling signal to control data flow between the second memory and the third memory is met by the write address generator 90, the read address generator 120 and the memory interface 80 (Fig. 4, col. 3, lines 20-44 and col. 5, lines 13-25).

However, Han explicitly does not disclose the claimed an input buffer unit for buffering input data which are externally and asynchronously input through at least two channels by different input clock signals and outputting buffered data as first data and first data enabling signals.

Suen et al teach that as a first step, the clock signal is used by the synchronization circuit 18 to synchronize the video and graphics signals to function with the same timing, to accomplish the synchronization conveniently in the system 10, a large first-in/first-out (FIFO) buffer is provided into which the stream of the video data is placed (Fig. 1, col. 3, line 65 to col. 4, line 10).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the large first-in/first-out (FIFO) buffer as taught by Suen et al into Han's system in order to allow the video signal to be appropriately synchronized with the graphics signals for essentially an entire horizontal line of video data.

Claim 10 is rejected for the same reason as discussed in claim 1.

In considering claim 12, the claimed wherein first and second input data are multiplexed according to time sharing and stored in different regions of the first memory in the step (b) is met by the series-parallel converter 50 which groups the video data

selected by the selector 30 and stores in the first buffer 60 (Fig. 4, col. 3, lines 20-44 and col. 5, lines 13-25 of Han).

In considering claim 20, the claimed wherein first and second input data are a graphic data for indicating R/G/B and a video data for indicating a luminance signal (Y) and a color-difference signal (U/V), respectively is met by the NTSC and the VGA (Fig. 5, col. 3, lines 45-58 of Han).

#### ***Allowable Subject Matter***

5. Claims 2-9, 11 and 13-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Asano (US Patent No. 6,351,291 B1) discloses image processing apparatus for an on-screen display which displays one image over another image.

Oguma (US Patent No. 6,384,868 B1) discloses multi-screen display apparatus and video switching processing apparatus.

Han (US Patent No. 6,094,230) discloses apparatus and method for displaying images on a multiple screen DTV.

Lee (US Patent No. 5,635,984) discloses multi-picture control circuit and method for electronic still camera.

Yatomi et al. (US Patent No. 5,504,536) disclose image display apparatus.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trang U. Tran whose telephone number is (571) 272-7358. The examiner can normally be reached on 8:00 AM - 5:30 PM, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TT  
October 13, 2005



Trang U. Tran  
Examiner  
Art Unit 2614